

Date: Friday, 7/4/2008 12:48:48 PM
 User: Kim Johnston

Process Sheet

| | |
|--|---|
| Customer : CU-DAR001 Dart Helicopters Services | Drawing Name : BOLT |
| Job Number : 40284 | |
| Estimate Number : 10372 | |
| P.O. Number : | Part Number : D312121 |
| This Issue : 7/4/2008 S.O. No. : | Drawing Number : D3121 REV E |
| Prsht Rev. : NC | Project Number : N/A |
| First Issue : 1/1 Type : MACHINED PARTS | Drawing Revision : E |
| Previous Run : 40156 | Material : |
| Written By : | Due Date : 7/28/2008 Qty: <u>100</u> Um: Each |
| Checked & Approved By : <u>08 07 07</u> | |
| Comment : Est. A 04.02.09 New issue KJ/DS | |
| Est Rev:B ECN 1060 07-11-12 DD verified by:EC | |

Additional Product

Job Number:



| | | |
|---------|-----------------------|---------------|
| Seq. #: | Machine Or Operation: | Description : |
|---------|-----------------------|---------------|

| | | |
|-----|-----------|-------------|
| 1.0 | M303H0500 | 303 HEX BAR |
|-----|-----------|-------------|



Comment: Qty.: 0.0417 f(s)/Unit Total : 1.6680 f(s)
 303 HEX BAR
 Material: AISI 303 SS 1/2" Hex Bar
 (M303H0.500)
 Batch: M107980 mme 08/07/10 (100)

| | | |
|-----|----------|--------------------------|
| 2.0 | HARDINGE | HARDINGE CNC LATHE SMALL |
|-----|----------|--------------------------|



Comment: HARDINGE CNC LATHE SMALL
 1-Turn D3121-21
 2-Identify as D3121-21
 3-Deburr break all sharp edges 0.005" to 0.010"
mme 08/07/10 (100)

| | | |
|-----|-----|--|
| 3.0 | QC2 | INSPECT PARTS AS THEY COME OFF MACHINE |
|-----|-----|--|



Comment: INSPECT PARTS AS THEY COME OFF MACHINE
mme 08/07/10 (100)

| | | |
|-----|-----|--------------|
| 4.0 | QC8 | SECOND CHECK |
|-----|-----|--------------|



Comment: SECOND CHECK
mme 08/07/10 (100)

| | | |
|-----|-------------|-----------------------|
| 5.0 | PACKAGING 1 | PACKAGING RESOURCE #1 |
|-----|-------------|-----------------------|



Comment: PACKAGING RESOURCE #1
 Identify and Stock
 Location: 232 8/7/10 80

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Date: Friday, 7/4/2008 12:48:48 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: BOLT

Job Number: 40284

Part Number: D312121

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

QC21

FINAL INSPECTION/W/O RELEASE



08/07/10 *[Signature]*

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



MF 08-07-10

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

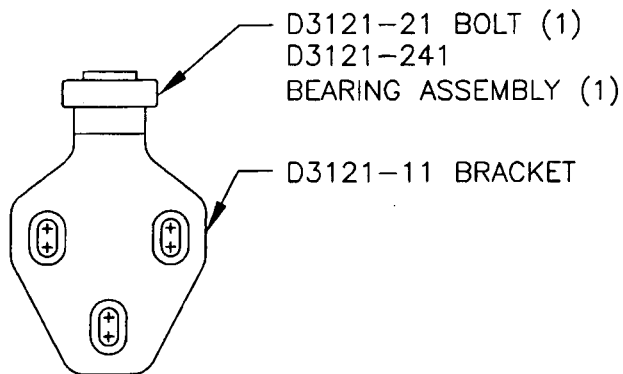
| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

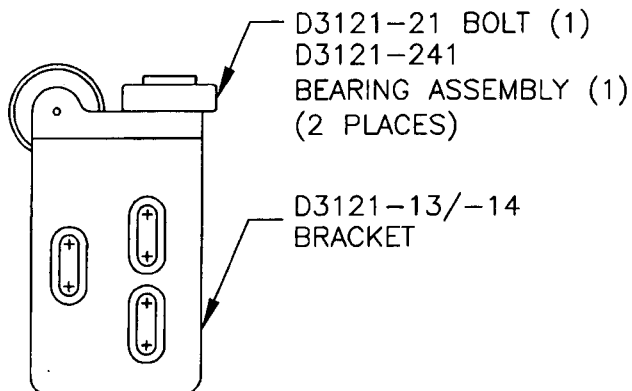


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| CHECKED # | APPROVED # | DRAWING NO. D3121 | REV. E SHEET 1 OF 10 |
| DATE 07.11.07 | | TITLE BRACKET ASSEMBLY | SCALE 1:2 |
| A | 02.04.15 | NEW ISSUE | |
| B | 03.01.16 | ADD RIDGES; ADD MAT'L PROP; FIX P/N ADD -141/-143/-144/-145/-146 | |
| C | 04.02.17 | ADD CLEARANCE; USE -241 BEARING | |
| D | 06.05.17 | D3121-25 CAP WAS 1.024, NOW 1.000 | |
| E | 07.11.07 | ADD TOLERANCE TO 0.032 (DETAIL B) | |

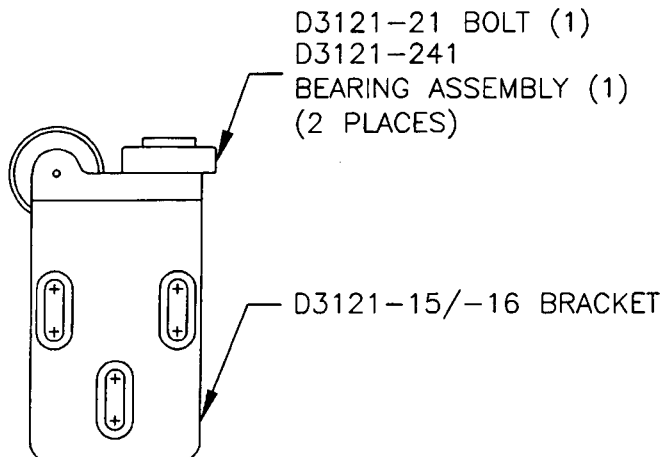
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D3121-041 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23000-33)



**D3121-043 (SHOWN) / D3121-044 (OPPOSITE)
BRACKET ASSEMBLY**
(REPLACES PREMIER P/N B30-23000-37/-38)



**D3121-045 (SHOWN) / D3121-046 (OPPOSITE)
BRACKET ASSEMBLY**
(REPLACES PREMIER P/N B30-23000-35/-36)

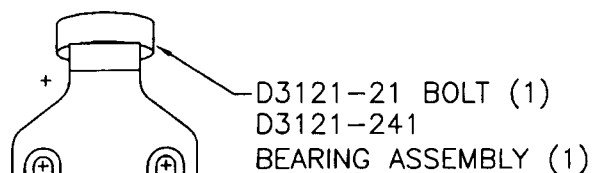
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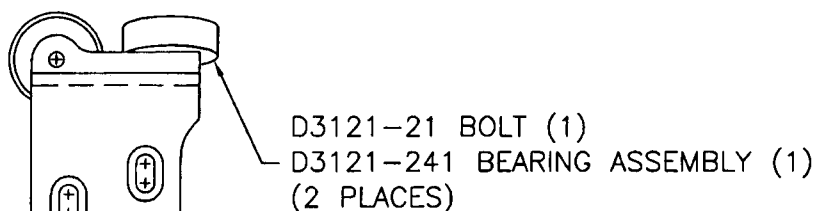
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D3121-111 BRACKET

D3121-141 BRACKET ASSEMBLY
(REPLACES PREMIER P/N B30-23001-01)

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D3121-113/-114 BRACKET

D3121-143 (SHOWN) / D3121-144 (OPPOSITE) BRACKET ASSEMBLY

(REPLACES PREMIER P/N B30-23000-03/-04)



D3121-115/-116 BRACKET

D3121-145 (SHOWN) / D3121-146 (OPPOSITE) BRACKET ASSEMBLY

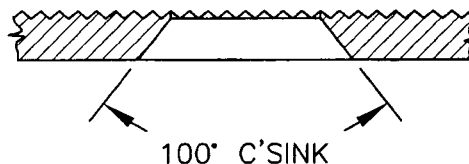
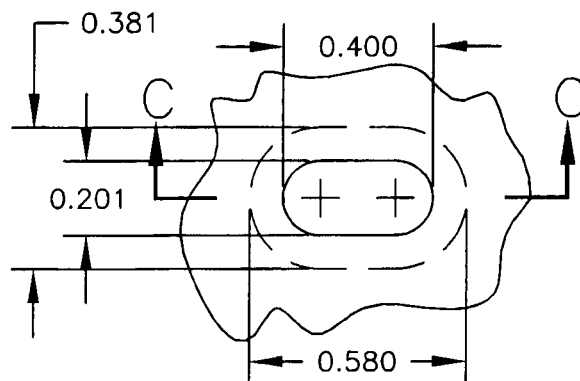
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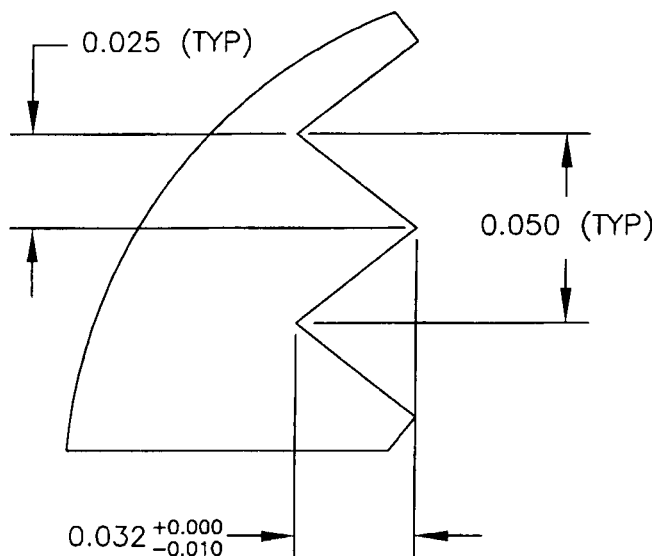
DETAIL A:
SLOT DETAIL
SCALE 2:1
VIEW ROTATED



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C-C

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DETAIL B:
RIDGE DETAIL
PARTIAL SECTION
SCALE 1:20



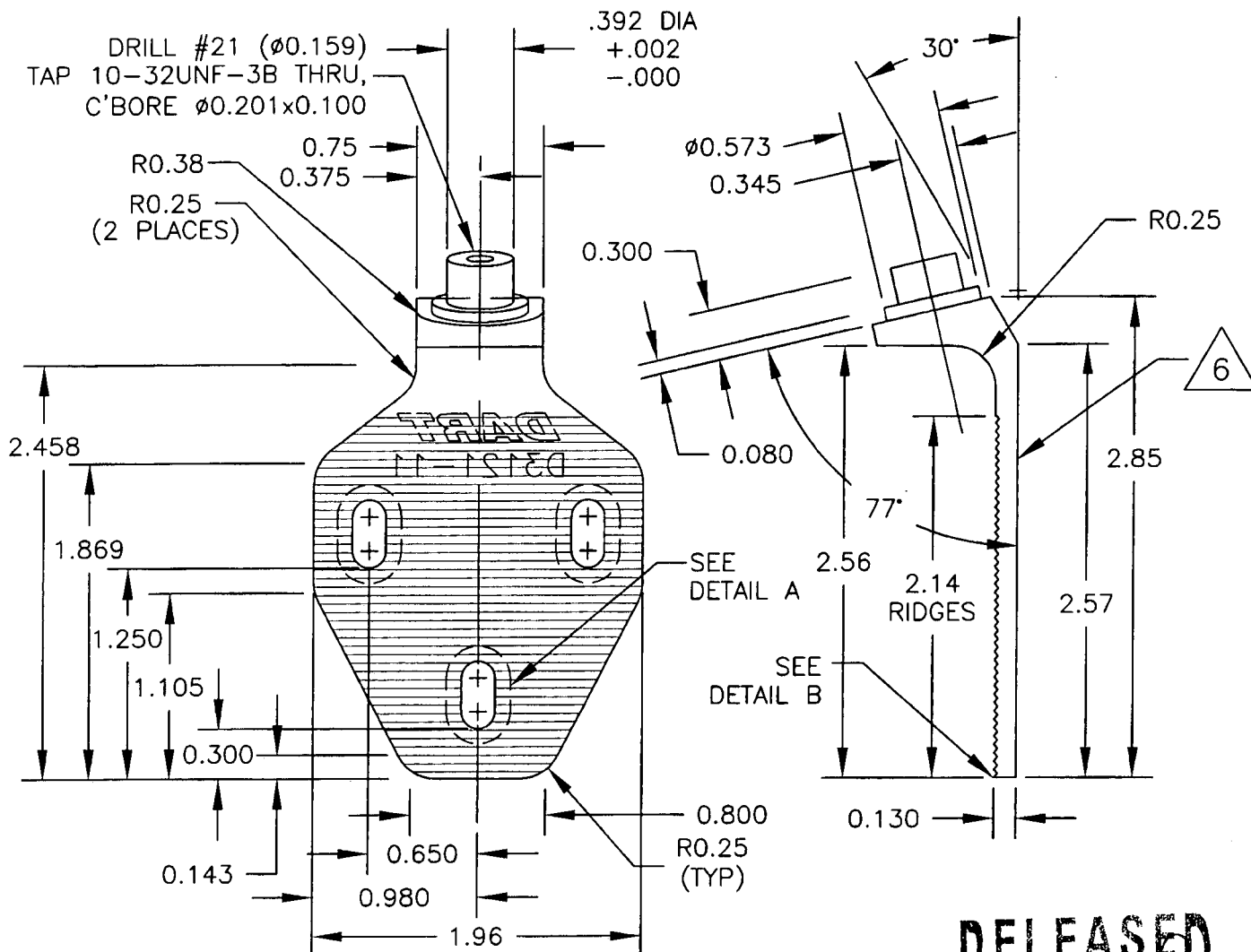
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D3121-11 BRACKET

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

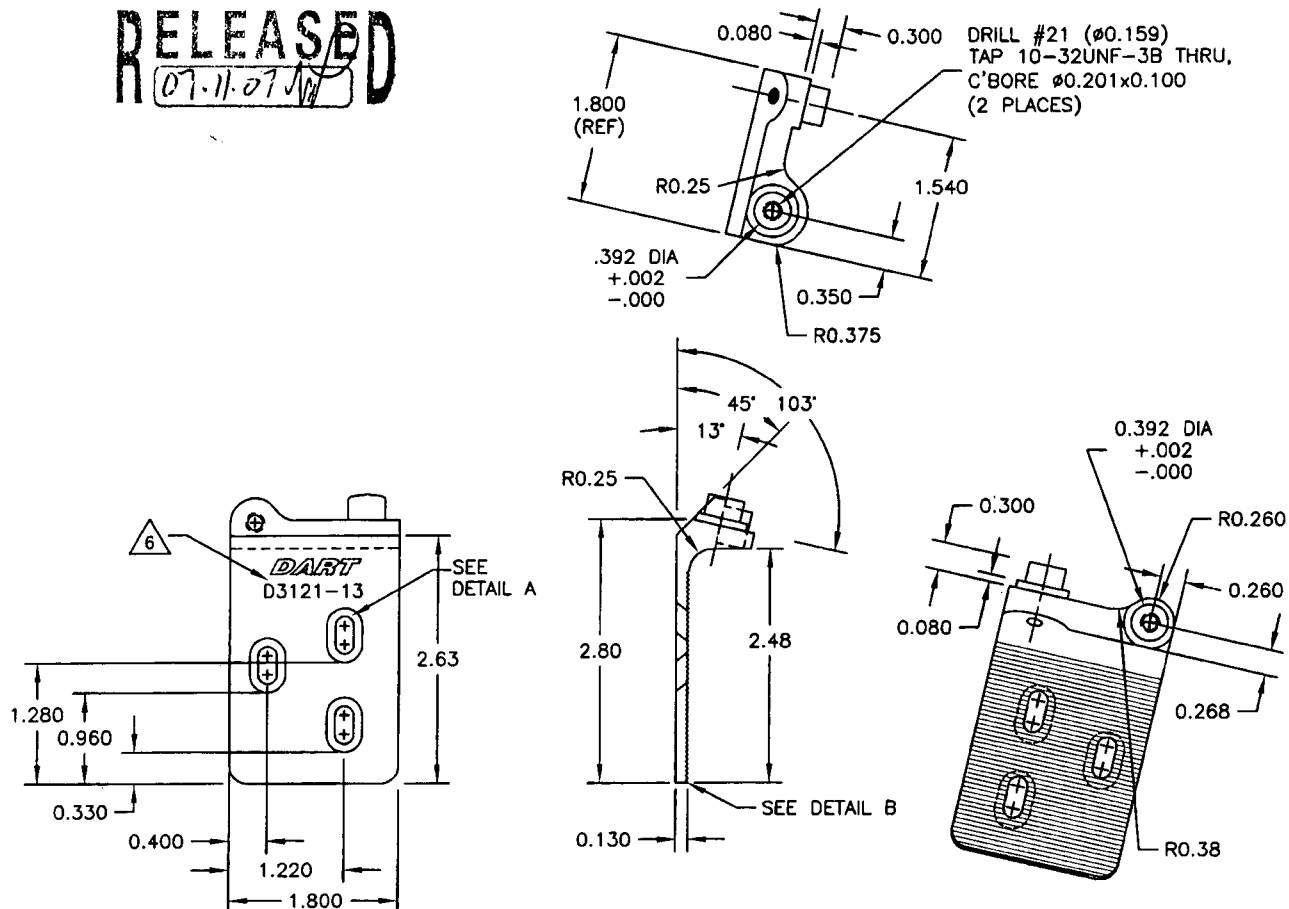
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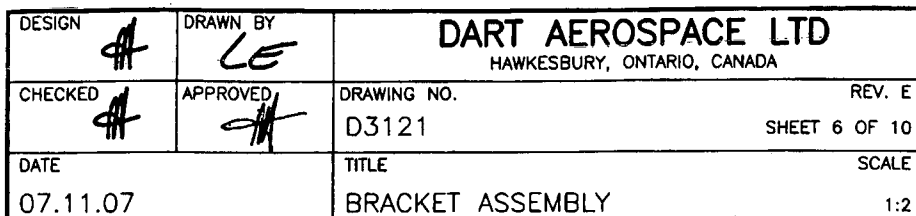
D3121-13 BRACKET (SHOWN)
D3121-14 BRACKET (OPPOSITE)

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N & LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

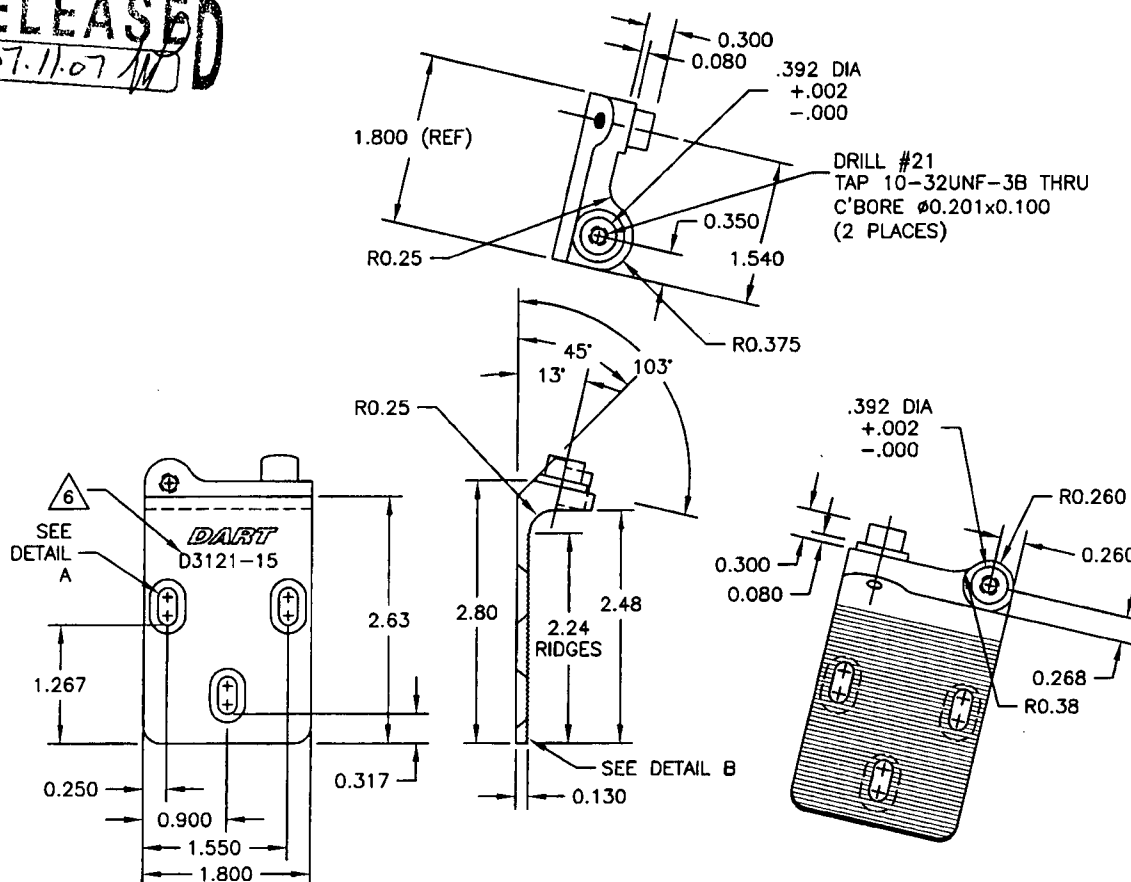
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D3121-15 BRACKET (SHOWN)
D3121-16 BRACKET (OPPOSITE)

- 1) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) ENGRAVE DART P/N AND LOGO AS SHOWN
- 6) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

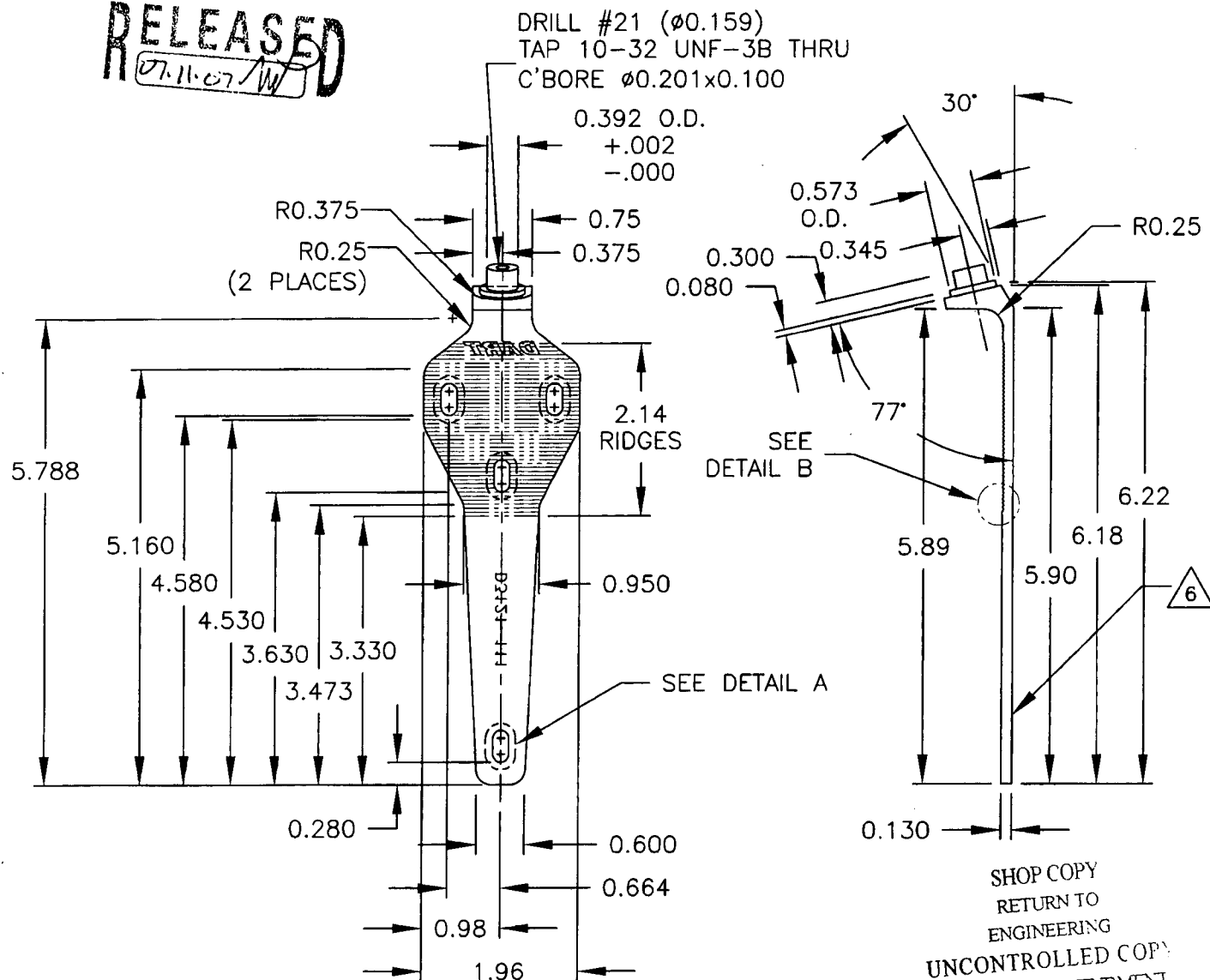
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D3121-111 BRACKET

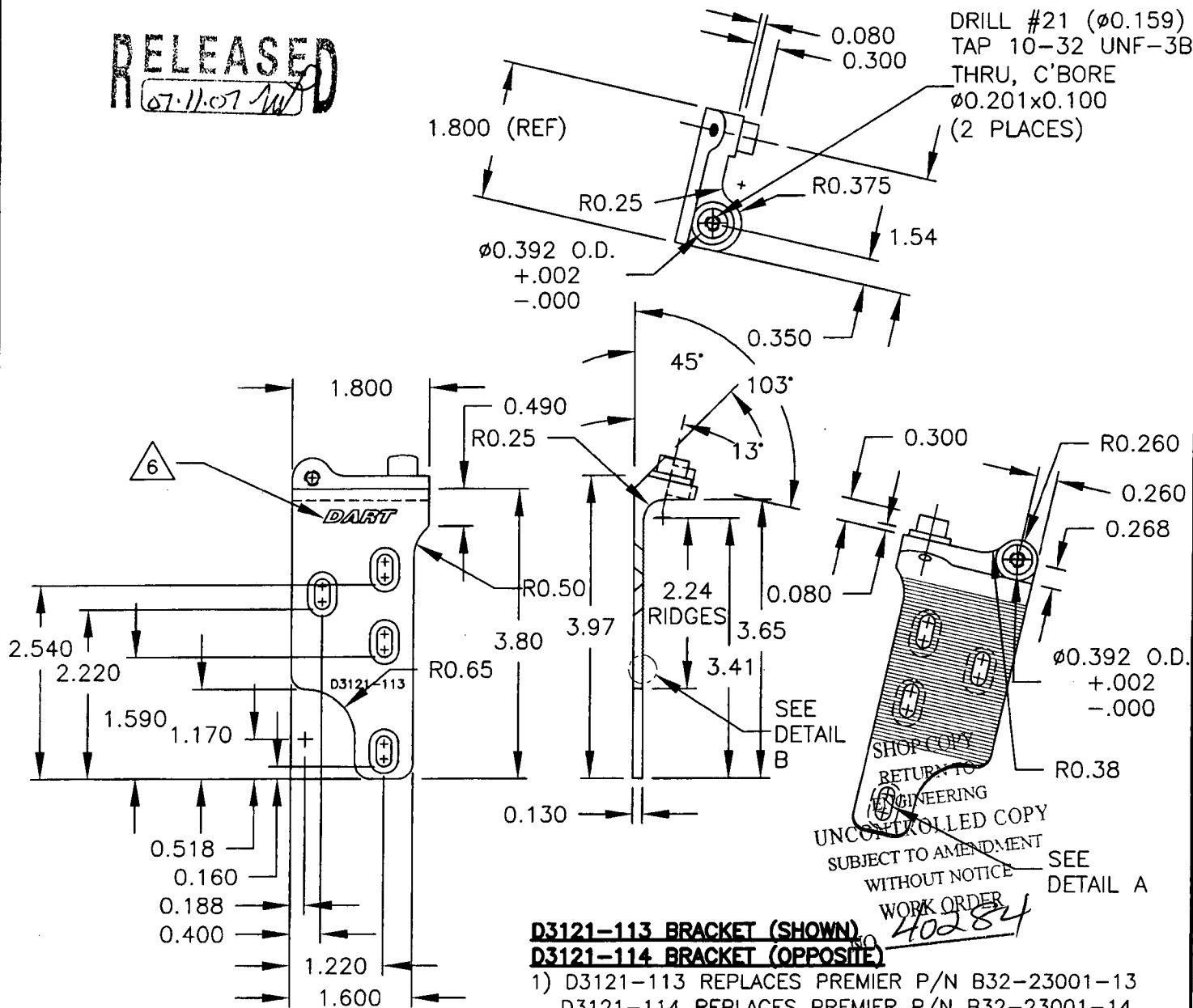
- 1) REPLACES PREMIER P/N B32-23001-11
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643 (REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE = 150 ksi
MIN YIELD TENSILE = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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| DATE 07.11.07 | | TITLE BRACKET ASSEMBLY | SCALE 1:2 |

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D3121-113 BRACKET (SHOWN)
D3121-114 BRACKET (OPPOSITE)

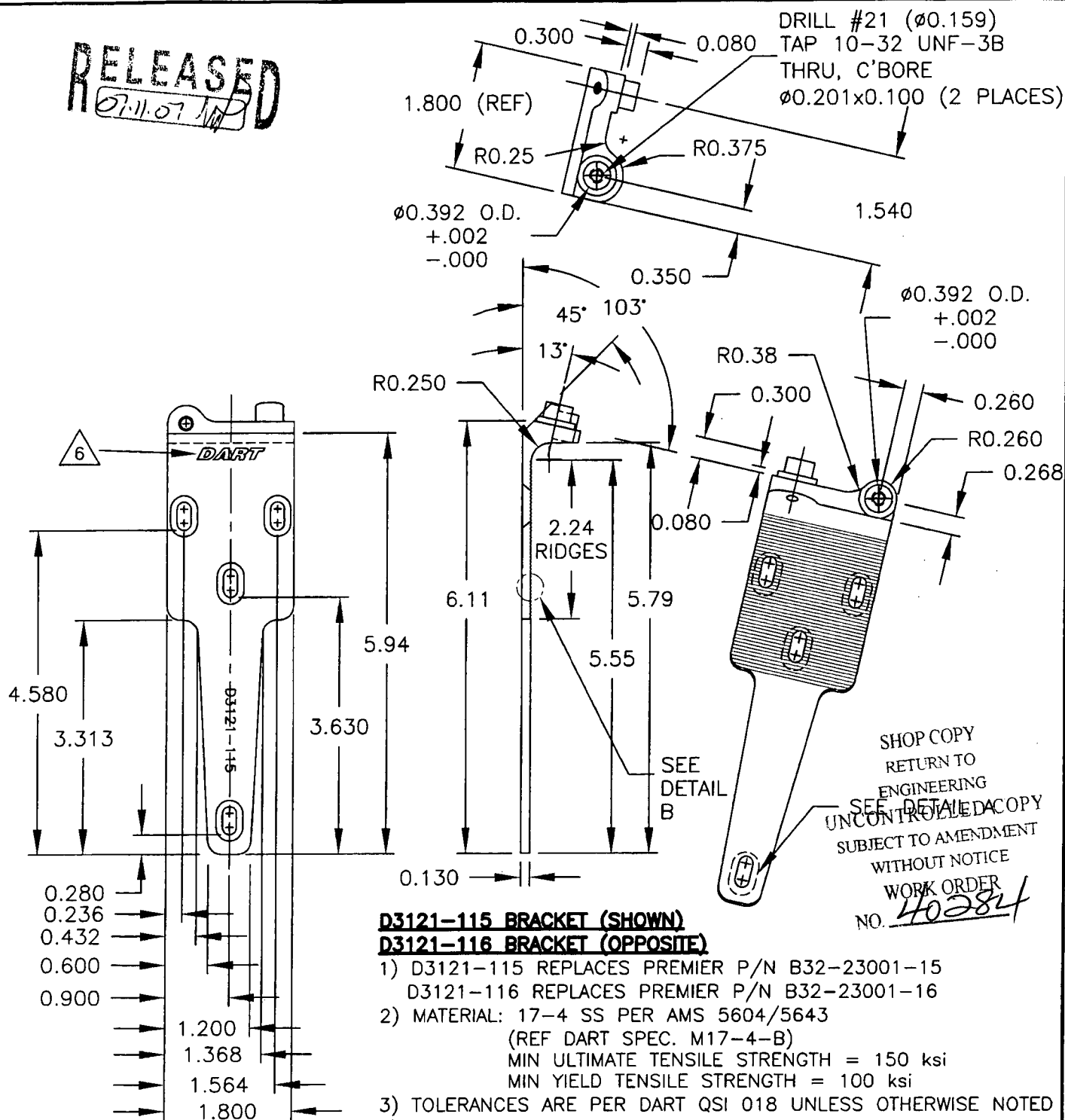
- 1) D3121-113 REPLACES PREMIER P/N B32-23001-13
D3121-114 REPLACES PREMIER P/N B32-23001-14
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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D3121-115 BRACKET (SHOWN)
D3121-116 BRACKET (OPPOSITE)

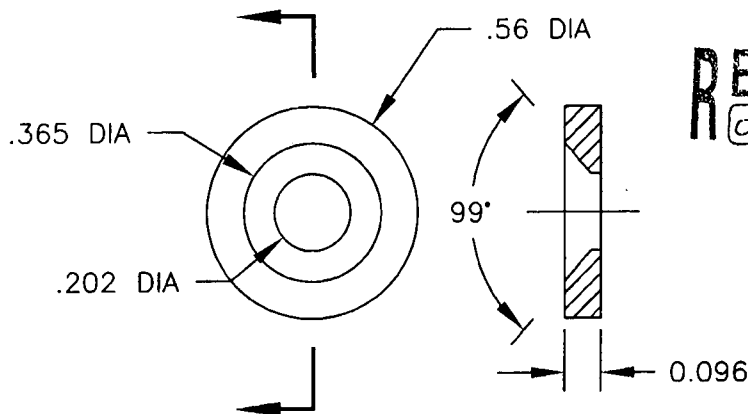
- 1) D3121-115 REPLACES PREMIER P/N B32-23001-15
D3121-116 REPLACES PREMIER P/N B32-23001-16
- 2) MATERIAL: 17-4 SS PER AMS 5604/5643
(REF DART SPEC. M17-4-B)
MIN ULTIMATE TENSILE STRENGTH = 150 ksi
MIN YIELD TENSILE STRENGTH = 100 ksi
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) ENGRAVE DART P/N & LOGO IN AREAS SHOWN
- 7) HOLE IN SPIGOT TO BE CONCENTRIC WITHIN 0.005

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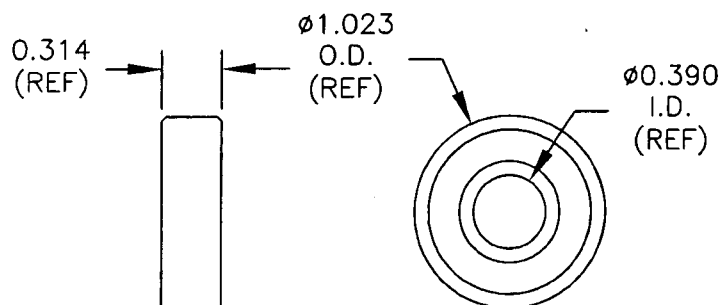
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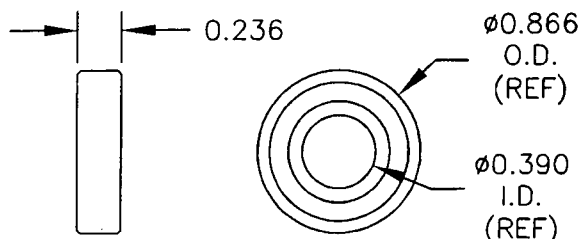
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| DATE 07.11.07 | | TITLE BRACKET ASSEMBLY | SCALE 1:1 |

**D3121-17 WASHER (SCALE 2:1)**

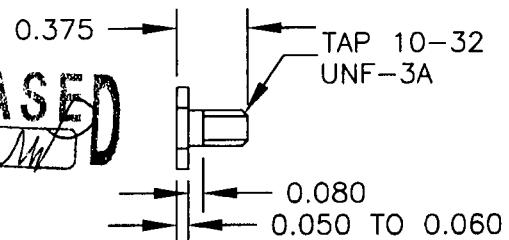
- 1) REPLACES PREMIER P/N B32-23001-17
- 2) MATERIAL: AISI 303 SS ROUND BAR, ANNEALED (REF DART SPEC. M303R)
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-19 BEARING (SCALE 1:1)**

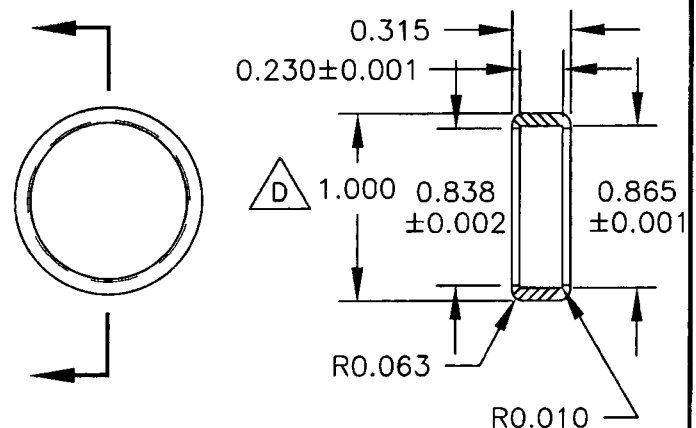
- 1) POSSIBLE SUPPLIER: KING BEARING P/N 6000-2ZJ/EM FAFNIR P/N 9100KDD
- 2) ALL DIMENSIONS ARE IN INCHES

**D3121-23 BEARING (SCALE 1:1)**

- 1) POSSIBLE SUPPLIER: SKF P/N 61900-2Z OR KML P/N 6900-2Z
- 2) ALL DIMENSIONS ARE IN INCHES

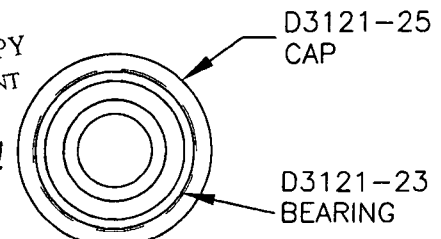
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- 1) MATERIAL: AISI 303 SS HEX, ANNEALED (REF DART SPEC. M303H0.500)
- 2) FINISH: NONE
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015

**D3121-25 CAP (SCALE 1:1)**

- 1) MATERIAL: DELRIN ROD, Ø1.25 (REF DART SPEC. M-DELRIN-R1.250)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES

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